

REMARKS

The Office Action dated February 9, 2005, has been received and carefully noted. The following remarks are submitted as a full and complete response thereto. Claims 1-23 are again respectfully submitted for consideration.

Claims 1-10 and 12-23 were rejected under 35 U.S.C. § 102(e) as being anticipated by *Rom et al.* (U.S. Patent No. 5,701,292). The Office Action took the position that *Rom et al.* taught all of the elements of the cited claims. Claim 11 was objected to as being dependent upon a rejected base claim, but allowable if rewritten in independent form. Applicant respectfully submits that claims 1-10 and 12-23 of the present application recite subject matter which is neither disclosed nor suggested in the cited prior art.

Claim 1, upon which claims 2-4 depend, recites a method for controlling data flow inside a network switch. The method includes determining if a quantity of queued data for a port, of a plurality of ports of the network switch, has exceeded a first predetermined threshold. The method also includes disabling, within the network switch, a data flow to the port from other ports of the plurality of ports if the quantity of queued data is determined to have exceeded the first predetermined thresholds. The method also includes re-enabling the data flow to the port from the other ports of the plurality of ports when the port satisfies a predetermined spatial requirement and a predetermined temporal requirement.

Claim 5, upon which claims 6-11 depend, recites a method for controlling data flow in a network switch. The method includes defining a preferred operational range for a port, of a plurality of ports of the network switch, defining a quasi-congested operational range for the port, and defining a congested operational range for the port. The method also includes disabling, within the network switch, a data flow to the port from other ports of the plurality of ports when the port approaches the congested operational range. In addition, the method includes re-enabling the port for receipt of data from other ports of the plurality of ports when the port reaches the preferred operational range and satisfies a predetermined temporal requirement.

Claim 12 recites a method for controlling data flow in a network switch. The method includes monitoring a quantity of data queued to be transmitted by a port of a plurality of ports of the network switch, determining if the quantity of data queued has exceeded a high water mark, and disabling, within the network switch, a data flow into a port queue from other ports of the plurality of ports if the quantity of data queued is determined to have exceeded the high water mark. The method also includes determining if the quantity of data queued has fallen below a low water mark, and determining if a predetermined amount of time has passed, if the quantity of data queued has fallen below the low water mark. The method further includes re-enabling data flow into the queue from the other ports of the plurality of ports, if it is determined that the quantity of data has fallen below the low water mark and the predetermined amount of time has passed.

Claim 13, upon which claims 14-19 depend, recites an apparatus for controlling data flow in a network switch. The apparatus includes means for determining if a quantity of queued data for a port, of a plurality of ports of the network switch, has exceeded a first predetermined threshold. The apparatus also includes means for disabling, within the network switch, a data flow to the port from other ports of the plurality of ports if the quantity of queued data is determined to have exceeded the first predetermined threshold. The apparatus further includes means for re-enabling the data flow to the port from the other ports of the plurality ports when the port satisfies a predetermined spatial requirement and a predetermined temporal requirement.

Claim 20, upon which claims 21-23 depend, recites a network switch that includes at least one data port interface connected to at least one port, in communication with a plurality of port interfaces of the network switch, and at least one queue in connection with the at least one data port interface for receiving data transmitted to the at least one data port interface from the plurality of port interfaces. The network switch also includes a memory management unit in connection with the at least one queue. The memory management unit disables, within the network switch, a data flow to a queue from the plurality of port interfaces when a level of data in the queue reaches a predetermined threshold, and thereafter re-enables data flow to the queue from the plurality of port interfaces when the level of data in the queue reaches a second predetermined threshold and a predetermined amount of time has passed.

As discussed in the present specification, certain embodiments of the claimed invention provide for temporal and/or spatially based flow control to remedy overcrowding at a particular egress port. *Rom et al.* fails to disclose or suggest all of the elements of any of the presently pending claims. Therefore, Applicant respectfully submits that these references fail to provide the advantages discussed above.

Rom et al. is directed to a system for implementing flow control in an information network such as a local area network (LAN). The received packets are held in buffers of the output ports before being transmitted via the output ports. The information network switch provides a control packet such as a PAUSE frame to an upstream source operably coupled to the input port in response to the level occupancy of the portion of the buffer allocated to the input port exceeding a first level. The PAUSE frame inhibits the upstream source from transmitting information packets to the input port.

As discussed above, claims 1-23 of the present application recites methods and devices for disabling a data flow “within the network switch”. In direct contrast, *Rom et al.* discloses that a PAUSE frame is sent to an upstream source once a buffer starts to fill. The flow of packets within the device is not affected. For example, in *Rom et al.*, if a certain level of occupancy of a portion of the buffer is detected and a PAUSE frame is sent, packets already received by the network switch would still be forwarded to the egress port. Thus, the data flow within the switch would not be disabled. Given the disclosure of *Rom et al.*, Applicants respectfully assert that the cited reference cannot teach all of the elements of the claims and, thus, the anticipation rejection is asserted to

be improper. At least for these reasons, Applicants respectfully submit that claims 1-23 are patentable over *Rom et al.* Therefore, reconsideration and withdrawal of the rejection of claims 1-10 and 12-23 under 35 U.S.C. § 102(e) are respectfully requested.

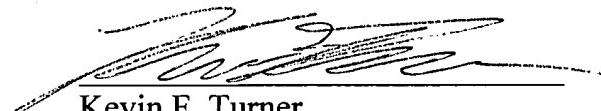
Additionally, Applicants respectfully assert that the subject matter of the instant claims is also not rendered obvious in view of *Rom et al.* *Rom et al.* is not concerned with the internal flow and one of ordinary skill in the art would not have been motivated to modify *Rom et al.* to reach the subject matter of the instant claims. For this reason, Applicants respectfully assert that the present claims are also not rendered obvious in view of *Rom et al.*

Applicant respectfully submits that all of the comments included in the Office Action have been addressed and that the rejection included in the Office Action has been overcome. At least in view of the above, claims 1-10 and 12-23 of the present application contain allowable subject matter, in addition to allowable claim 11. Therefore, it is respectfully requested that all claims pending in the present application be allowed and that this application be passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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